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# Maintaining Reliable Water Source Requires Constant Vigilance

## Li'l Echoes

by Rob Amos

Hundreds of years ago, when my ancestors first came to this vicinity, they were awestruck by what they found. There was tall grass to sustain cattle to produce beef for a growing nation. There was rich soil in which to plant wheat and cotton to feed and clothe the world. And on top of that, the countryside was so beautiful they could see the hand of God in the landscape.

All they lacked in having a tight tail hold on the world was just a simple drink of cool water. So they dug in the earth...and they dug...and they dug. And they discovered the curse of Texas—everytime they dug a hole, black poison shot up out of the ground. They couldn't drink the stuff; they couldn't water livestock with it; they couldn't irrigate with it. To hit oil when you're looking for oil is a wonderful thing, but to hit oil when you're looking for water means you're in a heap of trouble. And the folks who came to Texas in the time of the Comanches were definitely not looking for oil.

Everybody knew that oil, not water, was beneath the Texas soil and rock, but nobody had a clue how much oil was down there until January 10, 1901. At Lucas #1, on Sour Spring Hill near Beaumont, men cracked the planet's surface to a depth of just over 1000 feet. They were hoping to produce between 35 and 50 barrels a day from the well, nicknamed "Spindletop" after a peculiar-shaped tree located nearby.

Suddenly, a noise thundered forth from the bowels of the Earth as if man had drilled into Hell itself. Millions of gallons of Texas crude shot from the hole and into the heavens to a height of over 150 feet. For nine days, men battled the monster, trying to bring it under control. 42 million gallons of oil darkened the countryside. More oil was spilled in just the first five days than the entire yearly yield in the state of Pennsylvania, whose oilfields went from being the world's leaders to a mere footnote in history in the blink of an eye.

On the family ranch near the Menard-Kimble County line, my grandfather, age 6 at the time, was relatively unimpressed. "I wish we could get a water well to do that," he said—a sentiment echoed by all those who were trying to eke a living out of the dry soil of West Texas.

That's the attitude that persists in West Texas today. It's ingrained in our nature. We just take it for granted that oil is out there somewhere. Maybe there's none on our place, but there's probably some on the neighbor's. On the other hand, we have to fight Mother Nature tooth and nail for every drop of water that we get.

Now, Mother Nature is a pretty tough old gal by herself, but we also have to fight environmentalists that sit in wet states and make up rules, based on nothing that they know anything about, for how we can get water. And, right now, we have to fight folks that have all the water they can handle but for some reason seem to want all of ours as well.

We fought the environmentalists long and hard over Lake O.H. Ivie. They charged that a version of the Brazos Water Snake, known hereabouts as the Concho Water Snake would be endangered if the dam were built. And, they sent out a team of college kids to count the snakes. The team, according to witnesses, never bothered to sober up long enough to count any snakes besides the pink and orange polka-dot variety. So, following this "scientific" study, the Colorado River Municipal Water District had to spend millions to build a specific habitat for the slithering creature.

Now, of course, we know that the Concho Water Snake is all over the Concho River, above and below the dam. They're in the San Saba River and nearly any other river or stream around here. There are millions of the little rascals. Fishermen have caught them out in the middle of the lake in the very same deep water that the environmentalists said they couldn't live in. I'm afraid to chunk a rock in the lake for fear I might hit one of the little darlings.

But the fight over the snake was one we had to finish—and we did. As a result, San Angelo, Midland and Odessa now have an additional source of drinking water.

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Now, we believed when we fought for the lake to get the City of San Angelo the 25,000 acre feet it can take from it annually, that they'd leave our aquifer alone. Wrong. San Angelo has applied with the Hickory Underground Water Conservation District for permits to pump a total of 22 wells from their well field in the Hickory Aquifer for a total of 15,011 acre feet per year. That just about doubles what all the rest of us pull out of that aquifer and it has some very serious consequences.

The Hickory Aquifer is a very old underground body of water. The water in it has been carbon dated to several million years ago. Most of the water is in an underground cavern, or a series of interconnected ones, way down below the Earth's surface but part of it comes up pretty close to the ground basically in between Brady and Mason and around Voca. It also crops up near San Saba. In this limited area, the aquifer can be recharged to some extent, but only by about 6000 acre feet or so per year—providing we get rain.

Near Eden, the aquifer is a little over 4000 feet below the ground. Since it is the nature of water to seek its own level, once the City of Eden drilled into it, the artesian pressure of the water table caused the water to come up much closer to the surface so our pumps aren't anywhere near 4000 feet deep and neither is the well casing the pumps are in.

According to the water district's hydrologist, if San Angelo pumps the aquifer at 15,011 acre feet per year for 20 years, there will be a draw down of about 185 feet at the City of Brady's pumps. Approximately 60% of that draw down will occur in the first 5 years, according to the experts. The draw down is not consistent over the entire aquifer, owing to some really complicated mathematics that it takes hydorlogists years to learn, but according to his map, Eden is in the same boat as Brady. And that boat will be floating 185 feet lower after 20 years of pumping in San Angelo's well field.

For the folks who are in the outcrop portion of the aquifer where there is no artesian pressure, the effect is even more dramatic. Some 70% of the 200 registered or permitted Hickory wells are in the outcop area and those people are looking at an excellent chance that their wells will become unproductive if San Angelo pumps the aquifer at the rate it has requested.

There may be a tendancy by some to think that Eden will be the last to be affected because it's over the deep end of the aquifer, but that's not the case. Actually, Eden will be among the first to be affected if San Angelo pumps as much water as it wants. Within the Hickory Aquifer, there is a line known as the 1000 TDS (Total Dissolved Solids) Line. To the west of this line, Hickory water is of unacceptable quality for municipal purposes. As the San Angelo well field produces, it will tend to pull the 1000 TDS Line toward the east. The Eden wells are located almost within rock chunking distance of the line as it is. Very soon after San Angelo started pumping, Eden's wells would start to produce poor quality water, requiring much more expensive treatment facilities than the city currently has.

Furthermore, as the water table is drawn down, it would fa below the level of the city's pumps. There is a limit to how far th pumps can be lowered in the existing casing and since reaming well is as costly, if not more so, than drilling a new one, Eden woul have to drill two new deep wells 4000 feet into the aquifer at a cos of about 800,000 apiece. Then, the city would need larger pumps which ain't cheap, and a greater amount of energy to run them.

In the meantime, there has been nothing to show that San Angel would benefit from, be able to reasonably afford, or even have th capacity to handle the amount of water it wants from the Hickory. I order to get the water to the city, they would have to build a pipelin from their well field near the corner of Concho, Menard an McCulloch counties to Lake Ivie, where they intend to inject th water into the Ivie pipeline. They don't yet have all the rights-of-wa for that pipeline and they haven't produced figures to show how muc it would cost for trenching, the pipeline itself, pumps to move tha much water, etc.

Also, the City of San Angelo is not hurting for water source when you consider that they already have access to five area lakes Nasworthy, Twin Buttes, O.C. Fisher, E.V. Spence and O.H. Ivie Angelo's city manager said that the city is trying to plan fifty year into the future, but then so are Eden and Brady and the Millersview Doole Water Supply Corporation and the Hickory Underground Wate Conservation District.

On February 9th and 14th, the water district held a hearing i Brady to hear evidence regarding San Angelo's applications to produce water from its well field. The board must rule on San Angelo's application by March 15 and if it denies the application then the process will almost certainly go before a district level court based i San Angelo. That same court has consistently ruled in the city's favor in previous water cases so the process will most likely go on to an appeals court and possibly even to the Texas Supreme Court before it's finished.

It will be a long and expensive battle but it's one we must fight and one we must win. We simply have no other choice. Brady has hired an attorney and a hydrologist, both of whom caught San Angelo's team completely flat-footed at the hearing before the water district. The team assembled to look out for the interests of the folks in Brady and Eden and so forth is very high caliber and doesn't come cheap. Some of the cost will likely need to be borne by the taxpayers of Eden and Concho County—but it's a drop in the bucket compared to $800,000 for just one new well.